

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of making a diamond product by etching, said method comprising the steps of:

forming a diamond substrate with a mask layer including a metal layer in at least one part thereof; and

etching said diamond substrate formed with said mask layer with a plasma of a mixed gas composed of a gas containing an oxygen atom and a gas containing a fluorine atom;

wherein said fluorine atom has a concentration within the range of 0.04% to 6% with respect to the total number of atoms in said mixed gas, said plasma is produced by generating a high-frequency discharge between two plate electrodes, said high-frequency discharge is generated by supplying an electric power of at least 0.45 W/cm^2 between said plate electrodes, and said mixed gas further contains nitrogen gas, thereby to form the diamond product having a projection having a side face with an angle of inclination of at least 78 degrees.

2. (Cancelled)

3. (Previously Presented) A method of making a diamond product according to claim 1, wherein said gas containing said fluorine atom is CF_4 gas; and

wherein said CF_4 gas has a concentration within the range of 0.02% to 3% with respect to the total number of molecules in said mixed gas.

4. (Original) A method of making a diamond product according to claim 1, wherein said gas containing said oxygen atom is one of O_2 , CO_2 , and a mixed gas composed of O_2 and CO_2 .

Claims 5-11. (Cancelled)